

CLAIMS

1. System for electric coupling of a plane connection to the electrodes of the same polarity of an electrochemical bundle comprising an alternating sequence of at least one positive electrode and at least one negative electrode framing a separator, each electrode comprising a metal strip less than 50 µm thick, serving as current collector, at least one surface of which is coated with a paste containing the electrochemically active material, the strips of the electrodes of each polarity comprising a non-coated lateral band emerging respectively from the opposite ends of said bundle, characterized in that the lateral bands of the strips of the same polarity are folded in a direction approximately perpendicular to their initial direction at a height at least equal to the distance separating them from the adjacent strips of the same polarity in order to form an approximately plane and continuous base to which said plane connection is welded.
2. System according to claim 1, in which said lateral bands are folded at a height comprised between 3 and 4 mm.
3. System according to claim 1, in which said strips have a minimum thickness comprised between 10 µm and 15 µm.
4. System according to claim 1, in which said plane connection is laser-welded with addition of material to said folded strips.
5. System according to claim 1, in which said plane connection is transparency laser-welded to said folded strips.
6. System according to claim 1, in which said connection is electrically connected to a current output.
7. System according to claim 1, in which said connection constitutes a current output.

8. System according to claim 1, in which said bundle comprises a positive electrode and a negative electrode, framing a separator, which are spirally wound in order to form a coil.

5 9. System according to claim 1, in which said lateral band of the positive electrode has a height comprised between 13 mm and 17 mm.

10. System according to claim 1, in which said lateral band of the negative electrode has a height comprised between 8 mm and 12 mm.

10 11. System according to claim 1, in which said plane connection is welded at a distance of at least 3 mm from one end of the separator of the electrochemical bundle.

15 12. System according to claim 1, in which said lateral bands are folded in a concertina manner.

13. System according to claim 1, in which said plane connection is a blade not covering all of the surface of the plane base formed by said folded lateral bands.

20 14. Electrochemical generator comprising a system for electric coupling of a plane connection to the electrodes of the same polarity of an electrochemical bundle comprising an alternating sequence of at least one positive electrode and at least one negative electrode framing a separator, each electrode comprising a metal strip less than 50 µm thick, serving as current collector, at least one surface of which is coated with a paste containing the electrochemically active material, the strips of the electrodes of each polarity comprising a non-coated lateral band emerging respectively 25 from the opposite ends of said bundle, characterized in that the lateral bands of the strips of the same polarity are folded in a direction approximately perpendicular to their initial direction at a height at least equal to the distance separating them from the adjacent strips of the same polarity in order to form

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an approximately plane and continuous base to which said plane connection is welded.

15. Generator according to claim 14, comprising electrode plates.

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16. Generator according to claim 15, in which said plane connection is welded according to at least one weld line perpendicular to the plane of the electrodes.

10 17. Generator according to claim 14, comprising spirally wound electrodes.

15 18. Generator according to claim 17, in which said plane connection is welded according to at least one weld line tangent to the winding axis of the electrodes.

19. Generator according to claim 14, chosen from lithium generators and supercapacitors.

20 20. Method of electric coupling of a plane connection to the electrodes of the same polarity of an electrochemical bundle comprising an alternating sequence of at least one positive electrode and at least one negative electrode framing a separator, each electrode comprising a metal strip less than 50 µm thick, serving as current collector, at least one surface of which is 25 coated with a paste containing the electrochemically active material, the method comprising the following steps:

- at least one positive electrode, at least one negative electrode and at least one separator are put together to form an electrochemical bundle in order to let a lateral band of said electrodes of opposite polarity respectively protrude 30 from the opposite ends of said bundle.
- a pressure is exerted on the section of said lateral bands of the electrodes of the same polarity in order to fold them,

- a plane connection is welded to the base constituted by said folded lateral bands.

21. Method according to claim 20, in which said plane connection is laser-welded with addition of material to said folded bands.

22. Method according to claim 20, in which said plane connection is transparency laser-welded to said folded bands.

23. Method according to claim 20, in which the folding of the lateral bands is carried out by repeated flattening of said bands by small successive passes of a hammer over the same surface.

24. Method according to claim 23, in which the surface flattened by one pass is comprised between 20 and 50 mm².